



Brad Mettam  
06/22/2001 11:39 AM

To: Carolyn Yee/D09/Caltrans/CAGov@DOT  
cc: Katy Walton/D09/Caltrans/CAGov@DOT  
Subject: Additional Comments on the SEIS by Bob Halstead

FYI - There is some interesting information on the increased emphasis on truck transport caused by shipping fresher fuel early. This may be useful in our comments.

----- Forwarded by Brad Mettam/D09/Caltrans/CAGov on 06/22/2001 11:37 AM -----



"Joe Strolin" <jstrolin@govmail.state.nv.us> on 06/19/2001 08:45:47 AM

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cc:  
Subject: Additional Comments on the SEIS by Bob Halstead

FYI - Attached is a file with some additional comments on the Supplement to the draft EIS that were done by Bob Halstead. We plan to integrate them into the State's final comments.

Regards,

Joe



- SDEIS-FuelBlendingCmtsHalstead.doc

Date: June 18, 2001

To: Yucca Mountain SEIS File

From: Halstead

Subject: Key Issues Related to DOE Proposal for Expanded Fuel Blending

1. Fuel Blending is not discussed in detail in either the DEIS (see Appendix E, Pp. 11-12) nor in the SEIS (p.2-15). The SEIS refers the reader to Section 2.3.2.1 of the Science and Engineering Report (DOE 2001a). The SEIS should contain a full description of the proposed fuel blending process. This could be a major NEPA compliance issue.
2. Fuel blending would be a very complex operation. The additional handling of highly radioactive SNF in the pool building will create additional opportunities for accidents such as dropping of assemblies due to grapple failure or operator error. Releases of radioactive materials from accidents may or may not be contained in the pool storage and blending area. The mixing of SNF assemblies of different sizes and different radiological characteristics, from different fuel batches and/or reactors, will create numerous opportunities for errors (eg, insertion of incorrect assembly in disposal canister, insertion of assembly in incorrect disposal canister cell, etc). Cleanup after accidents will likely increase worker exposures and generate additional streams of LLW, Mixed Wastes, and possibly HLW. Indeed, the very feasibility of large-scale fuel blending is questionable.
3. Large-scale, daily fuel blending at the surface facilities will be considerably more risky than the base case process described in the DEIS (see discussion of North Portal Operations Area, Pp. 2-16 to 2-20). The proposed capacity of 5,000 MTHM or 12,000 SNF assemblies would be 5 to 10 times larger than the pools currently in operation at U.S. civilian reactors. In addition to the potential for handling accidents, pool storage and blending operations would be vulnerable to a wide range of natural disasters (earthquakes), human initiated events (insider sabotage, terrorist attack), and "normal" accidents (pool contamination resulting from cladding deterioration or undetected cladding pin hole leaks, pool filtration pump failure, pool leakage, loss of electrical power, etc). This may also mean the public's perceived risk of repository preclosure operations will increase.
4. Fuel blending requirements for "hotter" SNF could result in more highly radioactive SNF being shipped to the repository during the first two decades of repository operations. The entire concept of geologic disposal as proposed in the 1980 Generic EIS was based on the concept of shipping "oldest fuel first." The proposal for fuel blending, coupled with the desire of many utilities to ship the "youngest" fuel out of their pools to a Federal facility at the earliest opportunity, could result in large amounts of 5-10 year cooled fuel being shipped to the repository from startup of operations. The DEIS transportation risk analysis assumes an average SNF "age" of 26 years. Shipment of "younger" SNF would result in considerably higher routine and accident radiological risks during handling, transport, and storage, increased risks which are not addressed in the SEIS.
5. Fuel blending requirements for "hotter" SNF could result in much greater reliance upon truck transportation for repository deliveries during the first two decades of repository operations.

Current rail transport casks are designed to ship fuel SNF older than 10 years. Truck casks can carry fuel as young as 5 years out of reactor. Moreover, if the goal is to maximize "flexibility of operations" at the fuel blending facility by maintaining a diverse inventory of SNF, reliance on truck transport would be further encouraged because of quicker loading, unloading, and overall turn-around times for truck casks. Finally, if the commitment to fuel blending eliminates the previous goal of delivering large, multiple-purpose canisters, sealed and ready for emplacement, then there may no longer be any economic advantage to shipping large canisters by rail, and truck transportation could become the predominant or even sole mode of SNF transport. The SEIS addresses none of these issues. The SEIS fails to address the implications of fuel blending for selection of the preferred mode of transportation or the resulting implications for the number of shipments, risks, and impacts.

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